(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau



### 1,914 B \$31,000 II \$1900 BOLER (CO) 1 H HO BOLER B

## (43) International Publication Date 10 July 2003 (10.07.2003)

#### **PCT**

# (10) International Publication Number WO 03/056817 A1

(51) International Patent Classification<sup>7</sup>: H05B 41/39

H04N 5/74,

(21) International Application Number: PCT/IB02/05745

(22) International Filing Date:

18 December 2002 (18.12.2002)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 102 00 023.9

102 20 510.8

2 January 2002 (02.01.2002) DE 8 May 2002 (08.05.2002) DE

(71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Steindamm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US):
KONINKLIJKE PHILIPS ELECTRONICS N.V.
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven
(NL).

(72) Inventors; and

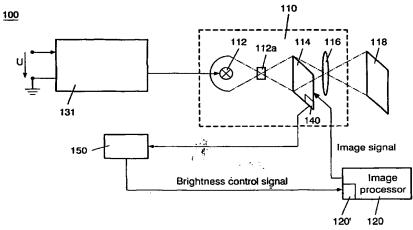
(75) Inventors/Applicants (for US only): LÜRKENS, Peter [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). DEPPE, Carsten [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). RIEDERER, Xaver [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

(74) Agent: VOLMER, Georg; Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: IMAGE PROJECTOR AND METHOD OF OPERATING SAME



(57) Abstract: The invention relates to an image projector with a High-Intensity-Discharge HID lamp (112) and a method of operating it. Such lamps have the disadvantage that their voltaic arc jumps back and forth between different positions at unforeseeable times during operation. This so-called arc jumping has the effect of changing the brightness, i.e. the overall brightness and / or the brightness distribution of the light emitted by the HID lamp (112). For the viewer of an image projected with such a projector, this effect appears as a jolt of this projected image. To avoid such effects for the viewer, it is first proposed according to the invention that changes in the brightness of the light in the image projector's beam path are detected. As soon as a change in brightness caused by an arc jump has been detected, this brightness is reset to a brightness detected at a moment t-2 before the arc jump, in order subsequently to convert it during a predetermined time interval T to the brightness resulting from the arc jump. This resetting must occur so soon after the arc jump, and the conversion so slowly, that the changes in the brightness of the light incident on a picture screen device (118) resulting from the arc jump, the reset, and the conversion are not perceptible to the human eye.

(54

O 03/056817